Acacia National Strategies: Mozambique

IDRC Study/Acacia Initiative

This document has been prepared on the basis of a 2 day workshop initiated by IDRC to assist in designing the programme, as well as previous discussions held in Mozambique, and with Mozambique officials outside the country, during the last four months. The workshop, entitled Towards the'Information Society, held in Maputo by the Universidade Eduardo Mondlane and also supported by the World Bank, brought over 100 people together, including government representatives from most of the 10 provinces, to develop concrete projects. The workshop was supported by the highest levels of government and produced a series of well developed proposals in most of the Acacia key areas.

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1. The Context

For 10 years between 1964 and 1974 Mozambicans were engaged in an armed war for their independance which was achieved in 1975. Following that a long and devastating civil war ensued in which millions of refugees fled the wake of the destruction. A peace accord was reached in late 1992 and free and peaceful elections generating over 80% voter turnout followed in 1994. After three decades of bloodshed and destruction Mozambique faces an enormous challenge in rebuilding its society and economy. The infrastructure of the country is in ruins and the strong agricultural export base has disappeared.

Mozambique is a large country (799,390 sq kilometres) with 17 million people of which more than half are under 20 and more than 60% are illiterate. There are very high levels of unemployment and it is among the poorest countries in the world (government estimates that 60% live in conditions of absolute poverty). Its population is almost entirely rural - the urban population is estimated at only 13%, with over 50% of the population in the remote northern areas of the country. The country has a massive debt burden totalling almost $US5.3 billion in 1993.

The picture above perhaps paints the wrong view of the country's potential - in fact it has vast natural resources, more fertile agricultural land than much of the rest of the sub-region put together, 2 500kms of largely pristine tropical palm lined coast and potentially the most economic sea-port access points for Malawi, Swaziland, Zimbabwe, Zambia and the economic heart of South Africa.

Since 1987 the government has been implementing policy reforms to promote economic recovery. Price controls have been all but eliminated, international exchange rates have been liberalized and import license requirements have been voided. In 1991, the government passed the Privatization Act which called for the privatization of all state-owned enterprise with the exception of those which provide public goods, including telecommunications. By late 1994, almost 400 companies, predominantly small to medium-sized operations, had been sold. In regard to sectors "vital to the national interest," a major reform program is underway. To complement the privatization and parastal reform, the financial and banking sector is also undergoing restructuring.

Key elements of the governments development strategy are to:

- reinforce human capital through education and health;
- rehabilitate the national transport infrastructure;
- support small scale farming;
- create a favorable investment climate.

2. The Information Society Environment in Mozambique

2.1 Telecommunications Policy and Structures

As part of the larger economic reform program underway in Mozambique, the national telecommunications operator was transformed into Telecommunications of Mozambique (TDM), an independent state-owned company in 1992. TDM was restructured to function as a commercial entity with financial autonomy and responsibility for planning, installation and operation of the national and international network.

In accordance with its more commercial orientation and independence, TDM has initiated numerous internal reforms designed to increase efficiency and profitability. The company has also entered into several joint ventures for the delivery of value-added and complementary services.

By the end of the decade the number of main telephone lines had doubled and network development has continued through the 1990s. Mozambique is unique in spending almost 5% of its GDP on telecommunications. There are now almost 60,000 main lines in operation, but despite these improvements, the teledensity rate remained under 0.4% in 1994. Maputo has 64% of all lines. At the beginning of 1995, about half the country's districts had no telephone service.

The European Union, KfW and Denmark are currently financing extensions to the telecom infrastructure, including a $33m fibre optic link between Beira and Maputo which will be completed by 1998. A second phase of the project will extend the fibre optic link to Quelimani and the trunk will also carry television signal. By the end of 1999 TDM plans to provide at least one telephone in each of the remaining 142 districts currently without service. By the end of the year, digital leased line services (64Kbps) are expected to be available in Maputo, Beira and Nampula. TDM has recently issued a number of 'phone-shop' licenses to allow small shops to resell public voice calls via telephone equipped with a usage counter. Larger container units are also being envisaged.

Most TDM connections to the international network are achieved via satellite. The only international digital exchange is located just outside the capital city, Maputo. Network development plans call for an additional international exchange, as well as a new earth station. Satellite connections are also used for domestic communications to the major cities. Regional connections are achieved via microwave links to Zimbabwe, Swaziland and South Africa.

In 1992, as part of the parastatal reform program, a new telecommunications law was enacted which established TDM as an independent company and created the National Telecommunications Institute of Mozambique (INCM) as an independent regulatory body. INCM undertakes several responsibilities, including: licensing; spectrum management; formulation and interpretation of sector policy; international relations; and defining and monitoring compliance with the performance targets set for TDM.

The Telecommunications Law of 1992 established TDM as the monopoly service provider for basic services, switching and transmission, as well as cellular services. Complementary and value added services, as well as data communications are open to competition subject to licensing by the INCM. There is no restriction on resale to third-parties of TDM circuits as long as they are not used for voice traffic.

A recent development is the formation of a joint venture by TDM and Detecon, a subsidiary of Deutsche Telekom, to provision and manage a nationwide cellular system. Service is expected to be introduced in mid-1997 and will originally target the urban areas of Maputo and Matola, as well as the transport corridor to South Africa.

Extensive use is made of radio communications in Mozambique, particularly out of the main centers due to the lack of public services. Last available figures show that there are about 4000 VHF stations, and 1500 HF radio stations. Most commercial businesses, United Nations and NGOs operating outside of the main towns use radio sets for communications to their remote sites in the provinces.

As would be expected, the industrial support infrastructure for telecommunications in the country is marginal, and only based in the major centers of Maputo and Beira. Local manufacture of telecommunications cable is conducted in Beira by a joint venture with Group VisaBeira and TDM. No telecommunications equipment is produced in the country, but most major vendors are represented. These equipment vendors, and their estimated share of the installed base of equipment in each of the major equipment categories are:

- Transmission equipment: Alcatel 40%, NEC 20%, Siemens 40%.
- Switching Systems: Italtel (GTE) 70%, Ericsson (ASE10) 30%.
- Cable: SIETE (Italy) 80% and Siemens 20%.
- PABXs: Alcatel 30%, Siemens 70%

A joint venture between Telecom de Portugal and TDM called Teleserve supplies customer premises equipment (PABXs, etc.), internal wiring services and paging services. It also supplies telephone instruments to TDM.

A consultancy company established as a joint venture between TDM and Swedtel called TELEConsultores provides management services to the telecommunication industry, specifically:

- Drawing up of specifications for communication systems.
- Tendering for the provision of project management services in the communications and broadcast area.
- Providing human resource development programs for the telecommunications sector.

Other TDM companies are:

- Listas Telefonicas de Mocambique - Editing of telephone directories.
- SOGITEL - Civil construction works.
- TeleAlarme - Electronic security engineering.
- Servisa - Maintenance and leasing of vehicles
- Graphic - Design and printing.

The SADC transport and communications unit - SATCC is based in Maputo and is involved in a number of regional telecommunications policy and data gathering activities including the EU funded 'integration study'.

2.2 Information Infrastructure

The poverty of the country is inevitably reflected in the limited penetration of information and communication technologies. The private sector and the state are the main consumers of information technology but its use is still very limited. There is virtually no use of computers in schools.

Under these conditions it is surprising therefore that key government officials, including the president and the prime minister recognise the development potential of the Internet and are insisting that Mozambique link to the global information highway (see video: Internet in Mozambique). As yet, the government does not have any overall ICT policies but has been discussing their possible formulation following the release of the AISI framework and the ISAD conference in May 96.

The IDRC/CIUEM workshop was opened by Minister Comiche who is widely recognised as the President's chief minister. In his opening address, and in personal conversations with the workshop organisers, he has made it known that the government has agreed to go ahead with establishing a high level working group to define a national information policy.

CIUEM: The Centre Informatica de Universidade Eduardo Mondlane (CIUEM) is the key ICT organisation in Mozambique. It is one of several centres attached to the only major University in Mozambique (although a small Catholic University has very recently been established in Beira). Reporting to the vice-Rector of the University, the Centre has about eighty staff organised into six divisions and directed by Venancio Massingue, a highly capable manager who has a close relationshipo with Minister Comiche and the other major ICT protagonist in government - the vice-minister for sports and culture. He attended ISAD and was a scientific advisor to the Addis Symposium and the AISI process.

CIUEM has received support fom the Dutch government since 1987, as has the University as a whole. In the Centre's case, assistance takes the form mainly of staff, funds for training and technical and scientific backstopping. The World Bank, the Portuguese National Institute for Administration, the British Council and the London School of Economics have also provided support, particularly for training.

Partnerships are being developed with the Manchester Metropolitian University (on distance education to help staff obtain masters and PHD degrees), with the University of Dar Es Salaam which is establishing a similar centre, with the University of Durban for staff exchanges and visits, with the University of Pretoria on computer-based learning and with CSIR on distance education, training and supporting technologies.

Agreements have been reached with a number of computing companies (HP, Sun, Digital, Tulip) which are marketing their equipment in the country whereby CIUEM provides maintenance guarantees.

An agreement was recently reached between CIUEM and Mozmbique TV (TVM) to share infrastructure for distance education.

Within the University, CIUEM has been responsible for the University's information policy and for establishing the University LAN which provides e-mail services in Maputo and Internet access on campus.

CIUEM has for many years been the only source of low cost Internet electronic mail facilities in the country. CIUEM does not restrict its service to the academic community and most of its

1500+ users are NGOs, businesses, government and members of the international community. It recently upgraded its service from dialup store-and-forward email to full Internet early last year using a 9.6Kbps leased line link to the University of Durban. Support from DGIS and World Bank were used in this process along with core funds from a supportive vice-chancellor.

With the large user base, expanding by 5% a month, the volume of email occupies much of the available bandwidth. As a result full Internet access has been opened to the dialup users but the proviso that access to international web sites is currently very slow. Efforts have been made to obtain a digital circuit to South Africa, but these have only recently become available and there is the ongoing problem of bringing a digital link the last mile from the PTT switch to the CIUEM premises. So efforts are now being focused on obtaining a digital VSAT connection.

Another problem has been the lack of additional telephone lines to host the numerous simultaneous dialup connections required by the users of a full Internet service. The public exchange serving the University is saturated and after many months of negotiations, CIUEM was able to pay for the installation of a new block of 100 lines from a neighbouring exchange which now terminate in the computer room.

CIUEM is currently finalising an agreement with CSIR to provide two technical Internet training workshops (one in Pretoria and one in Maputo) and to establish a hub for line-of-site broadband (2Mbps) wireless data communications. The project will establish the hub on one of the tallest buildings in the city link and link three institutions initially, for a cost of about $20 000. Other interested organisations will be able to link to the hub for the cost of their own on-premises equipment - about $4000.

The National Institute for Education Development will be one of the organisations linked via the hub, and it in turn is interested in establishing an Internet connection in one Maputo school - not as a true pilot but to demonstrate potential and get the issue onto the agenda of the Ministry of Education.

CIUEM is also working at the community level to establish a Cyber Cafe in Maputo which could be linked by the vireless hub.

Fees for the email service are: $15 for registration and $10/month for individuals, $25/month for small organizations and $50/month for large organizations. The full Internet service is priced at $50 for registration and $75/month for unlimited usage. No discounts for small organisations or individuals are envisaged. A permanent connection will be available for about $1500 a month, depending on the extent of usage.

Teledata: Since the late 80's Teledata has provided the country's X.25 PSDN service. TDM is a joint venture company with Marconi Portugal (Telecom de Portugal). Until recently this service was only available in Maputo, however it has recently been expanded to include Beira and Nampula.

Although announced early last year, Teledata's Internet service has only very recently become available. The service has 8 lines which are being increased to 16 next month. Access speeds are limited to 14.4Kbs and because the service is using the X.25 link to Portugal, it is very slow. Fees for the service are $80 for installation and training and $70/month which includes 10 hours free time with additional hours at $5. Technical skills for managing Internet services at Teledata are known to be limited.

TDM: Following the signing of the MOU with the US Government last month, the USAID executed Leland Initiative will shortly (March) be providing TDM with a high bandwidth Internet link between Maputo and the US which will then be resold to local ISPs. Leland's policy is that its support should result in reducing the cost of Internet access to below $25 a month. It is

unclear what impact this will have on CIUEM's service but CIUEM will most likely develop an Internet link with TDM and continue to pursue a separate VSAT solution for redundancy and their greater bandwidth requirements.

Virtual Connection: A 3 person consortium, Virtual Connection have raised US$60,000 in capital to offer Internet services. While they are not presently offering services, they have applied to the TDM for 20 lines. Helder Santos, the chief technician, runs a bulletin-board system (one of Mozambique's two BBS's) with 180 users.

MicroNet and Tropical BBS: A computer equipment supplier and a bulletin board system, MicroNet and Tropical BBS are planning to join forces to offer free email services. Tropical BBS has about 200 users and MicroNet will invest in hardware and telephone lines in the expectation that a free email service will attract up to 800 users. A central location on a main street near the international hotels has been established. Once full Internet is offered, a percentage of those users will start using their fee-based full service. Micronet is developing packages to facilitate access by unskilled users.

SDNP: The UNDP's Sustainable Development Network Program based in MICOA (the environmental co-ordinating Ministry) is working with CIUEM to support networking in the provinces.

There are likely to be at least 3 other companies who will shortly establish themselves to resell TDM's Internet service.

2.3 Technology and Tools

There are very few companies developing new ICTs and tools in Mozambique.

CIUEM has a software division which is solving local problems with imagination. One program for example, prepared for Save the Children, dealt with the issue of matching databases of parents and children where many spelling variants had been used. The solution was not to match on spelling but on pronunciation.

The University Faculty of Science and CIUEM are both working on software tools to improve mathematics teaching and to bridge gaps between matriculation and university mathematics studies.

A lexicon is also being developed to translate English technical terms into Portuguese.

Two local companies, EXI and SORT produce or adapt traditional finance and administration packages for the Mozambique market.

2.4 Applications and Content

For Minister Comiche, who is also responsible for economic and social development, the main emphasis should be on applications in the areas of education and health. The blockages to expanded use of Internet are, in the Ministers view:

- shortage of equipment;
- language and literacy limitations;
- lack of easy to use access tools;
- lack of search engines that can filter unwanted information.

The University, and, in particular CIUEM, is driving the development of applications and content. This will need to continue until the substantive departments of government recognise their own interests in joining the information world. They will probably be pushed by senior levels in government and from below by the Centre.

CIUEM is exploring content creation from two perspectives: the development of television, print and radio products that will sensitise the general population to the benefits of information access (through Hyper-boy: a street kid with magic access to Internet); and through the creation of Web pages on Mozambique and the University (in the expectation that the former will eventually become the responsibility of government departments).

Efforts at CIUEM have been made to start building local web content over the last year, but until recently this remained at a very early stage of development, partly because CIUEM lacked the human resources to concentrate on this activity. It is now in the process of establishing a new department of Information Services and Content Development, headed by a very capable woman - Polly Gaaster - who has worked with FRELIMO since before independance and was most recently the director of the Government's Information Centre. The centre has been equipped with a large web server and three other Pentium computers.

CIUEM is also developing a relationship with a commercial design company (Pangolim) to produce content for the Web. It has also signed an agreement with Austral - a multi-faceted business involved in consulting for the government and private sector, restaurant and book store operation and run by a dynamic Canadian entrepreneur. Austral will use CIUEM as a channel for Internet based information delivery and sourcing requirements of its clients.

One of CIUEM's major partners in government is MICOA (the environment coordinating Ministry) where it is providing technical support for linkages with UNEP programs and for the UNDP's Sustainable Development Network Program. It is also providing advice to the Ministry of Culture in connection with a SADC program to develop a network and database on cultural resources in the region.

The National Institute for Education Development is also interested in incorporating Internet access into programs underway for in-service teacher training. 3000 teachers are in the program now and an additional 15000 will go through the program.

ADMU (an urban development ngo) is using Internet to communicate best practices in community-driven urban development to an Africa-wide network managed by Habitat in Nairobi.

The Institute for Social Communication is the node for the SDNP program in Nampula: it would like to develop a network of organisations that could use Internet resources to strengthen local capacities to deal with development issues.

A Mozambique-led SADC initiative is aiming at the development of a regional network on cultural assets.

3. Acacia National Strategy for Mozambique

The Acacia strategy in Mozambique distinguishes itself from strategies in other countries by having a much longer term commitment (5 years) and also by taking more of a national approach within the country's efforts to decentralise activities to the provinces.

Mozambique is a very poor country that has demonstrated its willingness to join the global information economy. This makes it popular in the development community. As indicated above, initiatives are underway that involve the EU, the UNDP, AID etc.

Because Mozambique is so poor it offers very good opportunities to demonstrate whether or not ICTs really can offer leapfrogging opportunities. ICTs may provide the best alternative to the prohibitively costly extension of education and health services through traditional approaches. The use of telecentres may be one of the only means of consolidating demand given the general poverty of the largely rural population. There is also a strong interest in

government to decentralise the state and the economy as much as possible away from the capital Maputo, in the extreme south of the country, to the provinces, and in particular to the north where most of the people live. ICTs clearly have a vital role to play in any such decentralisation process.

IDRC has a special opportunity to play an important role in triggering the use of ICTs in Mozambique by building on its close relationship with CIUEM, which in turn is becoming the key advisor on government policy, not to mention because of the general scope of its activities and its connection to research programs within the university.

The broad objective of an Acacia program in Mozambique should therefore be to help create the environment in which the government, private sector and donors can assess the development benefits of communications and Internet access (connectivity) with a view to effective planning of future ICT investments.

It is therefore a very good environment in which to develop Acacia. But if Acacia is to be taken seriously in Mozambique it will have to prove itself as responding primarily to Mozambique needs. And it must support open policy development and a series of concrete initiatives concurrently. The workshop was an excellent start to this process which now needs follow-up to exploit the momentum that has been generated. However, the program should be seen as a long term investment: Acacia should commit to some level of funding and/or collaboration over a five year period.

Aside from supporting the development of the national information policy, there is the potential to evaluate and demonstrate some info/infrastructure enhancing technologies such as by building on the work already started at CIUEM for a wireless data hub and a content development department. Once the info/infrastructure is in place for pilot projects it should focus on the key development problems identified by government: national information policy, content development, education and health.

3.1 Identifying Entry Points

While it is clear that CIUEM will play a central role in Acacia's Mozambique strategy, Acacia should also pursue dialogue also with TDM and the Ministry of Transport & Communications and the Instituto Nacional das Communicacoes within the framework of the National Informatics Policy dialogue. Possibilities exist also to develop partnerships with donors: UNDP and the Bank in particular. CSIR is a logical partner on the technical side.

There are also a number of other CIUEM activities which are interesting from an Acacia perspective:

- public e-mail access for students - facilities have been created to enable students to drop in and use e-mail facilities, although these could be expanded.
- outreach work with the country's main training facility for primary school teachers and with a cultural centre/restaurant that is a potential Cyber Cafe software research and development
- training courses which have been developed for other countries in the region
- collaboration with CSIR
- the creation of Web pages on Mozambique
- extension of the Internet service outside of Maputo

3.2 Implementing Partners

In implementing the program, three lines of collaboration outside of CIUEM should be explored:

With CSIR (and the Telematics for African Development Consortium) which is already

developing a partnership with CIUEM on Internet skills training, wireless technology and distance education;

With Canada: three opportunities in particular present themselves: Schoolnet, youth corps and government information. Minister Comiche has expressed considerable interest in pursuing the Canadian connection with respect to Schoolnet and the New Brunswick community access model. Health applications should also be on the agenda for Canadian linkages; an early element of the program could bring a Canadian telemedecine specialist to Mozambique for consultations with the Ministry and the Medical School at the University.

With the World Bank. In line with the AISI mandate the Bank has been emphasizing awareness raising, training, rural connectivity, and policy contraints. It has demonstrated a keen in interest in ICTs in Mozambique - it contributed about 50% of the workshop costs and sent three representatives from Washington. Mozambique is one of the four African countries identified by the bank for ICT support programmes this year, and the President of the bank is making a visit to the country in February of which a significant amount of time will be spent at CIUEM. Linking schools via the Internet is a personal interest of the President. In Mozambique, project managers working in the Health, Education, Agriculture, and Economics (Privatization and Statistics projects) have expressed interest in pursuing this agenda for connectivity. They would like to raise awareness in these sectors and to define information gaps and develop concrete proposals for alleviating these gaps, in particular around the policy issues and rural connectivity gaps.

However, there are some potential challenges in working with the Bank - its on-going billion-dollar structural adjustment programme is one of the largest in the world and has come under attack from members of the NGO community who feel that the programme emphasises economic liberalisation ahead of support for rebuilding the country's industries and basic infrastructure. Observers feel that this approach gives no opportunity for Mozambique to develop its local productive base to levels that can withstand international competition. (See New Internationalist Feb/March 97).

With UNDP, to extend connectivity out from provincial capitals to the local NGO and government communitiues. The head of UNDP's Africa Bureau Sirleaf-Johnson is visiting Mozambique this month and further developments after this are expected.

3.3 Potential Project Opportunities

Various potential projects are outlined below including a budget estimate for the first year's activities.

3.3.1 The Telecentre concept

Acacia should consider support for:
establishing a telecentre in two or three strategic locations. Two locations have been identified -

- a) Namacha town, which is on the Swaziland border, close to the South African border and the centre of considerable economic activity from the surrounding rural areas as well as the passing traffic between Swaziland and Maputo. The director of CIUEM has good contacts there and could easily find a site to house the telecentre. It is within radio reach of Maputo.
- b) Catembe village, which is across the bay, opposite Maputo. Reachable by ferry, Catembe currently has a single telephone line at the post office. This despite being a popular weekend destination for people living in Maputo and its likelyhood of becoming a more important centre following the multi-million dollar eco-tourism project recently officially accepted for the Maputo Elephant Reserve and surroundings.
- c) A more outlying location in the north of the country as yet to be identified.

After discussions with CIUEM it was felt that the most suitable structure may be to make each telecentre an independent project, operated as a joint venture between TDM, CIUEM, some local entrepreneurs and a government institution (which is most likely to be able to provide the premises). TDM could meet the telecommunications costs where necessary although it may be possible to link both telecentres to CIEUM's wireless hub. CIUEM could also provide project management, the technical expertise and content development support. As part of the project, the services of CIUEM's Information Services and Content Development (ISCD) unit would be contracted act as a 'telecentre support centre' to develop appropriate content for the telecentres. The resources applied to this central function of content development argue strongly for the establishment of more than one telecentre to justify the investment. $100K/telecentre plus $75K for the ISCD.

- Capacity building at the Teachers Training School (basic upgrading of facilities would be required as well as the provision of computers and Internet access); $50K
- a demonstration schoolnet application in Maputo at the private Catholic school and its twin government school. The Catholic school already has sufficient computer equipment and only requires modem and telecommunications support. It also has the active support of the manager of a large local business. $50K
- support for the provincial nodes of SDNP. $50K

3.3.2 Applications and Content

CIUEM's software division has significant potential for investment: it is set up to serve public or private sector clients and could be seen as both a development and an investment opportunity. This offers good opportunities in the longer term for revenue generation and therefore contribution to the Centre's sustainability. The telecentre proposal above).

One of Acacia's main interests therefore is in working with CIUEM to develop appropriate content and applications and to persuade the government or private companies of their interest in taking over the driving role. Also of relevance would be to increase the capacity of the CIUEM department responsible for content creation. The telecentre proposal above could form the basis for the first stage of this part of the programme.

As more information becomes available it should be possible to identify other private sector opportunities, eg Pangolin on content creation.

The workshop sub-group working on content issues identified an important need to build awareness of the culture of information exchange at all levels of society from the general public to government administrations. Part of the Acacia programme could be to assist in the development of awareness building workshops around the country and to assist CIUEM in their project to development radio and television programming which tackles the issues of an information society.

Project proposals in the application sectors should also be built into this part of the program even though the initial focus of the projects is mainly to build connectivity with equipment provision, training and awareness building. One of the primary aims of the projects is to boost connectivity between the centre (Maputo) and the provinces, and between provinces themselves. However, training will also include a focus on information gathering and dissemination for users and lessons on how to gather, convert, rationalise and process existing materials to digital format. It was also emphasised that training on basic computer hardware maintenance is required.

Currently the strongest projects identified include:

- Agriculture: In particular, connecting the Directorate of Fisheries and Agriculture, provincial organisations of the Ministry of Agriculture, and expansion of the Information

centre at the NAP in Maputo. In addition, a private sector partnership with a local entrepreneur on developing agricultural information could be developed.

- Environment: A joint project between the Ministries of Environment, Statistics and Agriculture to establish a database of basic information on natural resources, climate and related data, in particular to gather information from the provinces. The Ministry of Finance and Planning has been carrying out substantial information gathering in some of these areas which could form a basis for the project.
- Health: Training and equipment provision where necessary for all chiefs of programmes at the provincial health directorates. Creation of a national health database.
- Education: See telecentre project.

3.4 Reducing Barriers to Access

3.4.1 Policy

The government has recognised the importance of access to the Internet as a development tool. Acacia intervention on the policy side will focus on supporting the development of a National Informatics Policy (NIP) and encouraging the government to move ahead with the telecommunications policy reform process involving a broad range of interests (user departments from government, particularly education and health, provincial governments, the university, NGOs, including those working at the community level etc). A desirable outcome would be the establishment of a national forum to maintain broad-based debate.

The structure proposed for this at the workshop is to establish a 'high-level group' comprising members of government who would be in a position to endorse an NIP following a drafting process which would take input from an 'advisory group' comprising all stakeholders and a series of awareness building workshops some of which would be held in the provinces. CIUEM roughly estimates that a total budget of $300K would be necessary to support the workshops, meetings of the advisory group and to bring in some international consultants to assist in the drafting of the policy, but that the government should agree to meet 30% of the costs to ensure its commitment to the proces.

Initiatives will also include measures to build civil society organisations in the sector, for example through stronger linkages with the CSIR Telematics Consortium such as periodic meetings in Maputo, and with relevant fora (eg community media) operating elsewhere; as well as policy proposals, a national information and communication infrastructure plan should also be an output.

In addition Acacia should consider the establishment of a program management, monitoring, evaluation and reporting unit to ensure community participation, that results reach government decision-makers in a timely fashion and that opportunities for further investments are made known also to the private sector and the donor community. The community participation element is particularly important for the Acacia integrated approach and will use the Sentinel Community Surveillance methodology as described in the South African strategy.

3.4.2 Infrastructure

The workshop identified a strong need to obtain international expertise in advising TDM on strategies to make use of the new technologies and business models available to improve the capacity and penetration of the telecommunications infrastructure. A 10 day consultancy comprising informatics and telecommunications experts (the latter probably available at no cost from the ITU) could have a major impact on TDM's grasp of the possibilities for employing innovative solutions.

The other main opportunity in the infrastructure area for Acacia is to support efforts to install a wireless CIDs-type data links in Maputo thus opening the doors for pilot projects in the areas of education and health. The initial application envisages linking the parts of the University

spread around the city to the main campus, however this could part of the programme could also be encompassed within the telecentre projects outlined above.

3.4.3 Human Resources

Mozambique is desperately short of human resources to deliver support for information networking and access. It is not short of energy or enthusiasm.

CIUEM is actively exploring opportunities to upgrade its own staff and to develop training programs for all categories of users: from university students, to NGO and government users, to communities with limited literacy and little exposure to computers.

Acacia could reinforce the training capacity of CIUEM through links with Canadian training facilities and youth corps assignmnets of the kind that IDRC is piloting in Angola.

CIUEM has on its staff the coordinator of the Mozambique Womens Action Nucleus (Dr Generosa Rosario). She led the Mozambiquan NGO delegation in Beijing. She might be a useful contact to build a gender component into the program.

4. Current status

Awaiting decision from the IDRC board.

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